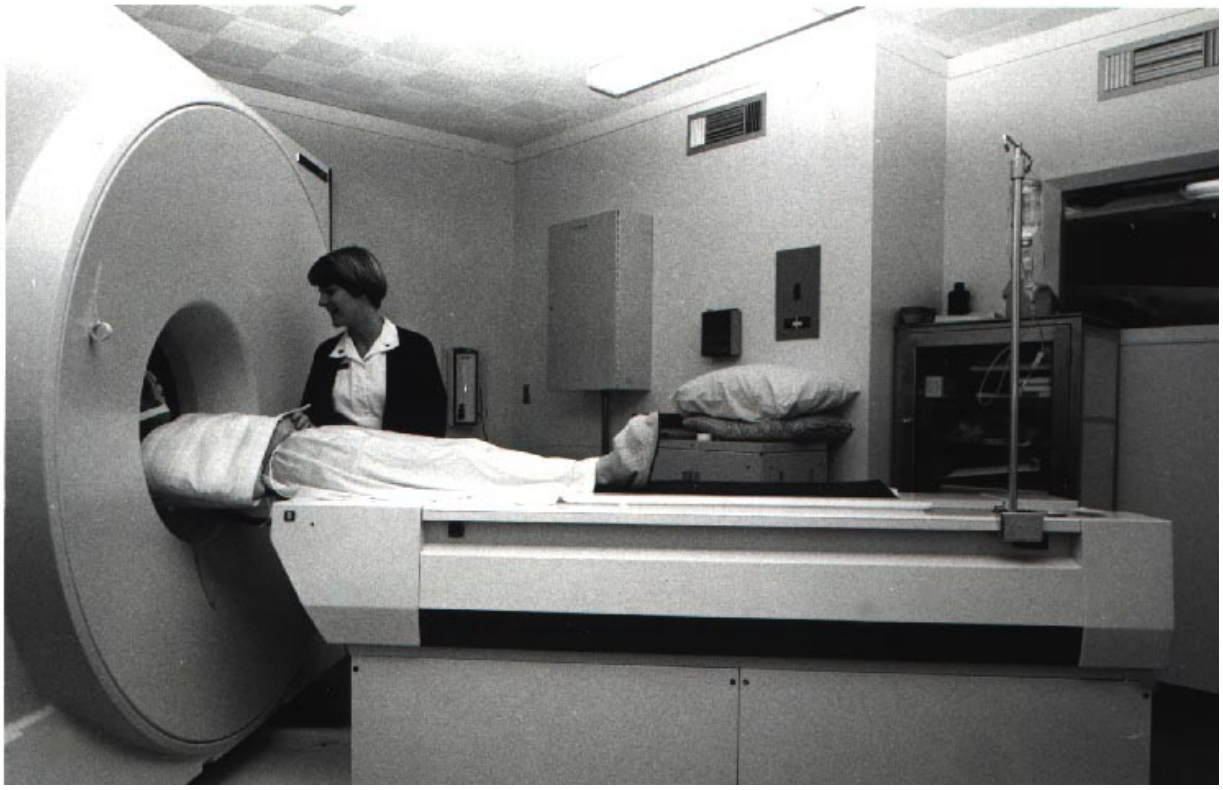
COMPOSITE HEALTH CARE SYSTEM II (CHCS II)



ASD(HA) ACAT IAM Program

Total Number of Systems:	170 Sites
Total Program Cost (TY$):	$1,330M
Average Unit Cost (TY$):	$7.8M
Initial Operating Capability:	2QFY01

Prime Contractor

Multiple Contractors: SAIC, CTA, IBA, Northrop Grumman, Iona, SRA, USI, Birch & Davis

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

First introduced in 1989, the Composite Health Care System (CHCS) is a tri-Service, medical management Automated Information System (AIS) now used in all DoD military Medical Treatment Facilities (MTFs) worldwide to support hospital administration and clinical health care. CHCS II, which expands on and will eventually subsume the original CHCS, is the target automated information system for the clinical business area of DoD's Military Health System (MHS). It is an evolutionary program intended to integrate the functionalities of over 40 different DoD and Service-unique AISs in varying stages of development, and create Computer-based Patient Records (CPRs) for all MHS beneficiaries. Nearly all of the new applications being integrated into CHCS II are commercial-off-the-shelf products. CHCS II supports the ***Joint Vision 2020*** concept of ***information superiority*** by integrating all the clinical systems of the three Services into a single joint system, increasing access to information, taking advantage of advanced business practices, incorporating the civilian health care sector, and allowing MTFs to be more efficient in protecting lives and resources.

BACKGROUND INFORMATION

OT&E has been conducted continuously on CHCS since its inception in 1989. When CHCS II was placed under OSD oversight in 1997, the original CHCS became a legacy system and was removed from oversight. Although a few standalone applications that will be integrated into CHCS II have undergone OT&E, CHCS II has yet to be tested as an integrated system. OT&E on two initial applications were conducted under the auspices of a CHCS II TEMP approved by DOT&E in 1997.

The first application to undergo OT&E in April 1998 was the Clinical Information System (CIS). CIS supports inpatient care by allowing health care providers to electronically view records of treatment and medication summaries, enter orders and treatment notes, and monitor vital signs of patients. It offers a foundation for CPRs, which is the ultimate objective of CHCS II. The Army Test and Evaluation Command (ATEC), the independent OTA, found CIS to be operationally effective, suitable, and survivable. An independent DOT&E assessment determined that CIS offers significant improvement over paper-based procedures and successfully performs the functions it was designed to do.

The second application to undergo OT&E was the Preventive Health Care Application (PHCA), which is used to document patient history, track immunizations, and recommend appropriate preventive care. OT was conducted on PHCA in September and October 1998, at Beaufort Naval Hospital, SC, and at two MTFs in San Antonio, TX. Many of the initial test results were unsatisfactory, mostly due to improper system installation and workstation configurations. Following IOT&E, the PHCA Project Manager corrected the problems and FOT&E confirmed that everything was favorably resolved. ATEC then concluded that the system was operationally effective, suitable, and survivable. DOT&E concurred.

TEST & EVALUATION ACTIVITY

In April and May 1999, ATEC conducted an OA on a CHCS II prototype system that was installed in only three clinics in Hawaii. The test results indicated that the prototype system was neither operationally effective nor suitable, and was not accepted by the users—most of whom ceased to use it following the OA. However, the OA results provided valuable information used to design the first major release (Release 1) of CHCS II after substantial operational and technical architectural changes were incorporated.

In August 2000, ATEC conducted an abbreviated OA in Hawaii on an early version of Release 1. Most of the users agreed that Release 1 was superior to the version tested the year before, but they also complained that it was still slow and unstable. Some Hawaii users were frustrated with the system's complexity, frequent "crashes," and inability to store notes reliably.

Release 1 has now been installed at beta test sites in the Tidewater area of Virginia, and DT&E continues in an effort to correct the kinds of problems apparent during the abbreviated OA. Meanwhile, the CHCS II ORD has been revised and is approved by the Joint Requirements Oversight Council. Following the completion of DT&E, and DOT&E approval of the TEMP and test plan, OT&E is tentatively scheduled for November 2000 (more probably later) at Portsmouth Naval Hospital, VA; Langley AFB, VA; and Seymour-Johnson AFB, NC.

TEST & EVALUATION ASSESSMENT

CHCS II is very complex, and planning for IOT&E of the integrated system has been problematic. The PM has very effectively implemented the Integrated Product and Process Development initiative, but with so many migration and legacy systems (each with its own product manager), and with such large Integrated Product Teams (IPTs), the process can be cumbersome. DOT&E actively participates in these IPTs to provide responsive OT&E guidance and streamline their activities. However, the funding fluctuations and constant architectural changes have made it difficult to establish a baseline for planning.

Since it will be DoD's premier health care system, CHCS II will have a tremendous operational impact on the fighting force. The CPR will be the first (military or civilian) cradle-to-grave automated health care record—one that can revolutionize the effectiveness of the MHS by providing instantaneous patient information to health care providers worldwide. An associated "smart card" called the Personal Information Carrier will enable the warfighters to carry some of this information with them, thus enhancing combat effectiveness by expediting health care at all levels.

CHCS II faces many serious challenges. Technically, it is on the leading edge of technology and must link multiple commercial-off-the-shelf products together, both within and among nearly 170 MTFs and dental facilities worldwide, in a way that is not being done or is even feasible in the civilian sector. Operationally, it means a new way of doing business for many health care providers required to become more and more "computer literate." CHCS II also introduces some new procedures, such as the use of templates to record patient encounters in an effort to standardize the CPR. As a consequence of these and other challenges, the CHCS II development schedule has been revised several times.

DOT&E will continue to actively support the IPT process and directly assist in test planning so that IOT&E can take place as soon as practicable. Once the test results are in and DOT&E has completed its independent assessment, its recommendations should aid the PM in fielding the best possible system to support the military health system.